

Appl. No. 10/687,299  
Amdt. Dated Aug. 22, 2005  
Reply to Office Action of Jul. 12, 2005

### **REMARKS**

#### ***Claim Rejections under 35 U.S.C. 103(a)***

*Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over BUTSCHER (4,605,933) in view of LEE (6,839,028).*

Dependent claims 19 and 20 were included in the Response dated "04/21/2005" responding the Office action dated "02/09/2005". It came to applicant's attention that in the current Office Action, no action was made to claims 19 and 20. At least for this reason, reconsideration and withdrawing of this Final Office Action is respectfully requested.

The Examiner states that the phrase "mechanically connected" is NOT "directly connected". The applicant disagrees.

It is clear that in the last response the applicant intentionally added the term "mechanically" after the term "electrically" to modify the term "connecting" to distinguish from the original term "electrically connecting". Understandably, the term "mechanically connecting" essentially describes the "physical/direct connection" manner rather than the "immaterial/indirect connection". The applicant also uses the term "directly interconnected" in the last response to described the relation of the different elements of the cited references to differentiate the claimed invention therefrom. Clearly, the Examiner knew/knows the applicant's true intention because the Examiner specifically underlines the term "directly" in Examiner's "Response to Arguments".

Attached please find a list showing there are 373 issued patents (attachment) using the term "electrically and mechanically connected" in their claims to described their invention. All Usages of this term refer to the same situation as that in the instant application. Applicant believes that it is very popular in the electrical field to use this term for describing two

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parts having the direct/mechanical/physical connection and performing electrical transmission therebetween. It is really rare to use this term to describe the indirect or non-physical connection between two parts (except already clearly introducing a third part therebetween) while performing the electrical transmission therebetween. Applicant respectfully requests that the Examiner agree with the properness of the term "electrically and mechanically connecting" in the claims.

Anyhow, if the Examiner still hesitates to accept Applicant's foregoing arguments, Applicant respectfully request to be allowed to amend the related claims by adding the term "directly" or even replacing the term "mechanically" to modify the term "connecting". This amendment is to only clarify or precisely describe the original terminology "mechanically" rather than "try to add more limitations" because the Examiner already knew the applicant's true intention regarding the direct issue. It is really unnecessary to prohibit the applicant from this amendment at this stage and urge the application to file an RCE and then allow it. It is believed that permitting the applicant to make such an amendment, which is essentially to only precisely describe or clarify the already existing limitation, is the simplest way to put the instant application in condition for allowance.

The Examiner is invited to call the undersigned for such an amendment instruction if the Examiner still can not agree with the interpretation of the term "mechanically" presented by the applicant above.

Claims 2-6 and 20 are also allowable because of their dependencies upon claim 1 wherein claim 20 further defines the match tab indirectly mechanically connected with the radiating element via a connecting patch which is not grounded to the ground plane.

However, as disclosed in FIGS. 1-2 of Butscher, Butscher discloses an

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impedance matching tab 24 extends upward from the lower ground plate 12 to the region in front of the radiating disk 20 (column 2, lines 55-57 of the description). Apparently, the match tab 24 extends away from the from the ground plate 12 while fails to reach to the radiating disk 20 (see column 2, lines 55-57). Thus, Butscher does NOT disclose *the match tab indirectly mechanically connected with the radiating element via a connecting patch which is not grounded to the ground plane* as defined in claim 20.

On the other hand, Lee mentions a microstrip antenna employing width discontinuities. A conventional microstrip antenna 100 is shown in Fig. 1 of Lee. The conventional microstrip antenna has a rectangular radiating patch 130. The length L and the width W of the rectangular radiating patch 130 are adjusted to achieve a desired resonant frequency (column 2, lines 25-29). In order to reduce the size of a microstrip antenna, the width discontinuities are introduced in the conventional rectangular microstrip antenna (column 2, lines 52-54). Thus all of the first patch 202 and the pair of patches 204a, 204b are radiating patches so that Lee fails to disclose a match tab. The adjustment of impedance matching depends on the position of the feed point (column 3, lines 3-6). Thus, Lee does NOT still disclose the features as defined in claims 1 and 20.

Therefore, claim 20 also has its own allowability.

Regarding to Claim 7, a patch antenna as defined therein a planar mental sheet comprises a first element, a second element and a connecting patch connecting the first element with the second element and a feed cable comprises an inner conductor electrically connecting with the first element.

Butscher does not teach "a planar mental sheet comprises a first element, a second element and a connecting patch connecting the first element with the second element" as defined in claim 7 (see DETAILED ACTION Page 6, line 3).

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Lee mentions a microstrip antenna comprises a pair of patches 204a, 204b (corresponding to "the first and the second elements" of claim 7) and a first patch 202 (corresponding to "the connecting patch" of claim 7) connecting with the pair of patches 204a, 204b. The coaxial feed point 206 is disposed in the first patch 202 at a location so as to match input impedance of the antenna with a coaxial cable (column 3, lines 35-37). From the above description, it is clearly seen that *the coaxial feed point 206 of Lee is disposed in the connecting patch but not in the first element.* But claim 7 defines that the feed point is disposed in the first element but not in the connecting patch. Furthermore, in order to realize impedance matching and perfect performance of antenna, the feed point of the antenna can not be altered optionally. Thus it is not obvious to displace the feed point from the connecting patch to the first element.

Claim 7 is patentable over Butscher in view of Lee. Claims 8-11 are also believed to be patentable since they depend from independent claim 7, either directly or indirectly. In view of the lack of such disclosure in either of these references, withdrawal of this ground of rejection with respect to amended claim 7 and its dependent claims is respectfully requested

Likewise, claim 12 also defines the features "a planar metal sheet comprises a first element, a second element and a connecting patch connecting the first element with the second element and a feed cable comprises an inner conductor electrically connecting with the first element." However, neither Butscher nor Lee discloses the above-identified features as defined in claim 12.

In addition, claim 12 further defines "the connection patch has a characteristic impedance same as that of the input impedance of the second element."

The microstrip antenna of Butscher does not comprise a connection patch connecting the matching tab 24 with the radiating disk 20, so that the

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feature "the connection patch has a characteristic impedance same as that of the input impedance of the second element" as claimed in claim 12 is not taught by Butscher.

Lee, furthermore, fails to disclose the first patch 202 (corresponding to connection patch) having a characteristic impedance same as that of the input impedance of the patch 204a or the patch 204b.

Therefore, claim 12 is not anticipated by Butscher and Lee. Claim 12 is patentable over the cited references. Claims 13-19 are also believed to be patentable since they depend from independent claim 12, either directly or indirectly. In view of the lack of such disclosure in either of these references, withdrawal of this ground of rejection with respect to claim 12 and its dependent claims is respectfully requested

Favorable reconsideration and withdrawal of the rejection are respectfully requested.

In view of the above claim amendments and remarks, applicants believe that the claims now pending are in a condition for allowance. Favorable consideration is respectfully requested.

Respectfully submitted,  
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Patent Database Search Results: ACLM/"electrically and mechanically connected" i... 第1頁・共2頁

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Results of Search in 1976 to present db for:  
ACLM/"electrically and mechanically connected": 373 patents.  
Hits 1 through 50 out of 373

*Attachment*

Next 50 Hits

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Refine Search: ACLM/"electrically and mechanically connected"

PAT. NO.	Title
1 6,930,397	T Surface mounted package with die bottom spaced from support board
2 6,926,540	T Transmission module assembly having printed circuit board
3 6,906,447	T Rotating asynchronous converter and a generator device
4 6,886,961	T Power tools having wire guides for lights
5 6,882,522	T Production method of solid electrolytic capacitor
6 6,881,074	T Electrical circuit assembly with micro-socket
7 6,870,176	T Cadmium sulfoselenide surface-mountable optocoupler
8 6,858,807	T Substrate for receiving a circuit configuration and method for producing the substrate
9 6,856,090	T Incandescent halogen lamp having flattened filament support leads
10 6,850,126	T Surface mountable circulator/isolator and assembly technique
11 6,847,266	T Microelectromechanical RF and microwave frequency power regulator
12 6,844,606	T Surface-mount package for an optical sensing device and method of manufacture
13 6,842,636	T Medical electrode
14 6,838,673	T Electromagnetic wave transforming device
15 6,815,834	T Electronic part
16 6,805,568	T Zipper connector
17 6,791,250	T Seal and flag assembly for lamp base sidewire welding
18 6,786,736	T Surface mount interconnect and device including same
19 6,778,038	T Piezoelectric resonant filter, duplexer, and method of manufacturing same
20 6,774,563	T Support for a lamp capsule and end-of-life device, lamp including such capsule, and method of coupling lamp capsule and end-of-life device to such support

Patent Database Search Results: ACLM/"electrically and mechanically connected" i... 第 2 頁, 共 2 頁

- 21 [6,772,788](#) **T** [Pressure control valve](#)
- 22 [6,771,003](#) **T** [Surface acoustic wave apparatus and communication unit](#)
- 23 [6,770,394](#) **T** [Fuel cell with monolithic flow field-bipolar plate assembly and method for making and cooling a fuel cell stack](#)
- 24 [6,764,356](#) **T** [Connection terminal](#)
- 25 [6,716,669](#) **T** [High-density interconnection of temperature sensitive electronic devices](#)
- 26 [6,707,145](#) **T** [Efficient multiple power and ground distribution of SMT IC packages](#)
- 27 [6,700,187](#) **T** [Semiconductor package and method for manufacturing the same](#)
- 28 [6,694,610](#) **T** [Method of producing electronic component](#)
- 29 [6,693,502](#) **T** [Air circuit breaker](#)
- 30 [6,689,640](#) **T** [Chip scale pin array](#)
- 31 [6,685,501](#) **T** [Cable connector having improved cross-talk suppressing feature](#)
- 32 [6,665,194](#) **T** [Chip package having connectors on at least two sides](#)
- 33 [6,650,301](#) **T** [Single piece twin folded dipole antenna](#)
- 34 [6,639,155](#) **T** [High performance packaging platform and method of making same](#)
- 35 [6,609,931](#) **T** [Orientationless squib connector assembly](#)
- 36 [6,593,538](#) **T** [High-voltage interrupter device having combined vacuum and gas interruption](#)
- 37 [6,592,783](#) **T** [Anisotropic conductive adhesive film](#)
- 38 [6,587,140](#) **T** [System and method for using a single intelligence circuit in both a digital camera and printer](#)
- 39 [6,577,065](#) **T** [Electric lamp with light source extinguishing arrangement and method of operating same](#)
- 40 [6,576,972](#) **T** [High temperature circuit structures with expansion matched SiC, AlN and/or AlxGal-xN \(x>0.69\) circuit device](#)
- 41 [6,560,089](#) **T** [Implantable medical device having flat electrolytic capacitor with cathode/case electrical connections](#)
- 42 [6,551,854](#) **T** [Semiconductor device having bump electrodes and method of manufacturing the same](#)
- 43 [6,551,131](#) **T** [Stacked electrical card connector assembly](#)
- 44 [6,545,393](#) **T** [Crystal unit](#)
- 45 [6,545,256](#) **T** [Light receiving module and radiation detecting apparatus equipped with the same](#)
- 46 [6,526,152](#) **T** [Electroacoustic transducer having a moving coil and elastic holding elements for the connecting leads of the moving coil](#)
- 47 [6,512,491](#) **T** [Antenna device and its assembly method and wireless communication terminal and their assembly method](#)
- 48 [6,508,349](#) **T** [Parking meter with electric grounding arrangement for corrosion reduction](#)
- 49 [6,506,992](#) **T** [Vacuum interrupter for vacuum breaker](#)
- 50 [6,504,447](#) **T** [Microelectromechanical RF and microwave frequency power limiter and electrostatic device protection](#)

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